# TECHNO PHILIA

## Course Curriculum

# ARTIFICIAL INTELLIGENCE

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## THE PROGRAM : ARTIFICIAL INTELLIGENCE

Artificial Intelligence is one the very crucial branch of computer science which aims at the generation of intelligence among electronic machines. So it can be inferred in a simple way as a way of making a computer controlled-robot, or software that will be having the ability to think intelligently exactly in the similar way as a human does. AI is a way of making a computer, a computer-controlled robot or software think intelligently, in a similar manner that intelligent humans think. Initially, the thorough study of the human brain is done that how it thinks, decides, learns new things, and acts upon the various different stimuli and then the outcomes are used as a basis for developing intelligence like humans in machines Implementation of Human Intelligence in Machines – Creating systems that understand, think, learn, and behave like humans.

In this workshop, each session will be held tentatively for three to four hours. The very details of the sessions are given below:

## SESSION 1: INTRODUCTION OF ARTIFICIAL INTELLIGENCE

- Introduction of Artificial Intelligence and Machine Learning
- A brief introduction to Machine Learning for AI
- Classification of Machine Learning and Deep Learning
- Difference between Machine Learning and Artificial Intelligence
- Machine Learning Techniques
- Types of Learning
- Machine Learning System Design
- Supervised Learning- Regression Classification
- Future scope, Machine Learning And Artificial Intelligence

## SESSION 2: PYTHON

- Introduction to python
- Conditional Statements
- Looping, Control Statements
- Lists, Tuple ,Dictionaries
- Functions
- Installing Packages
- Jupyter notebook

## SESSION 3: WORKING ON VARIOUS PYTHON LIBRARY

- Installing library and packages for machine learning and data science
- Matplotlib
- Scipy and Numpy
- Pandas
- IPython toolkit
- Scikit-learn

## SESSION 4: MACHINE LEARNING

- Logistic Regression
- Linear Regression
- K-Means Clustering
- Support Vector Machines (SVM)
- k-Nearest Neighbors (KNN) algorithm for classification

## SESSION 5: DEEP LEARNING

- What is Deep Learning
- Why Deep Learning
- Neural Networks
- Types of Deep Learning
- Artificial Neural Network

## SESSION 6: INTRODUCTION NEURAL NETWORK

- BASIC introduction Neuron
- The Neuron Diagram
- Neuron Models
- Activation function

- Binary Step Function Linear Function Sigmoid
- Tanh
- RELU
- Leaky ReLU
- single-layer feed-forward
- multi-layer feed-forward
- Feedforward Neural Networks

## SESSION 7: PROJECT

- Classifying MNIST digits using Random Forest
- Customer churn prediction using ANN
- Image Segmentation using openCv
- Face Detection using Haar Cascades
- Making snapchat Filters

# Technophilia Solutions

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